**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**KONGU ENGINEERING COLLEGE**

**(Autonomous)**

**PERUNDURAI ERODE – 638060**

**NOVEMBER 2018**

**BONAFIDE CERTIFICATE**

##### This is to certify that the project report entitled RESOLVING MAN-ANIMAL CONFLICT WITH ELEPHANT DETECTION USING CONVOLUTIONAL NEURAL NETWORK is the bonafide record of project work done by SHAHANA A (Register no.: 15CSR191), VIDHYA C (Register no.: 15CSR227) and YUVARAJ S M(Register no.: 15CSR241) in partial fulfillment of the requirements for the award of the Degree of Bachelor of Engineering in Computer Science and Engineering of Anna University, Chennai during the year 2018 - 2019.

**SUPERVISOR HEAD OF THE DEPARTMENT**

**(Signature with seal)**

**Date:**

Submitted for the end semester viva voce examination held on\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**INTERNAL EXAMINER EXTERNAL EXAMINER**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**KONGU ENGINEERING COLLEGE**

**(Autonomous)**

**PERUNDURAI ERODE – 638060**

**NOVEMBER 2018**

**DECLARATION**

We affirm that the project report titled **RESOLVING MAN-ANIMAL CONFLICT WITH ELEPHANT DETECTION USING CONVOLUTIONAL NEURAL NETWORK** being submitted in partial fulfillment of the requirements for the award of the Degree of Bachelor of Engineering is the original work carried out by us. It has not formed part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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**ABSTRACT**

Nowadays farmers who cultivate crops adjoining forest areas face a serious threat from wild animals like elephants and wild boars. These animals trespass into fields and sometimes into villages in search of food and water. This is mainly due to deforestation and intrusion of humans into the perimeter of the forests and corridors used by wild animals for foraging and migration.

Such human-animal conflicts leads to colossal damage of agricultural crops and also at times causes loss of precious human life who are working in the field. The solution for this problem is to devise an early warning system that could detect the arrival of elephants sufficiently before the actually raid a field. The objective of this project is to detect elephants by using Convolution Neural Networks and running Deep Learning algorithms on images that are captured by cameras installed at likely routes of elephants’ movement.

The system once it detects an elephant will notify through SMS a set of mobile numbers that will serve the purpose of an early warning system. This system is trained with 637 images of positive and 250 negative samples of Color Images. The system gives 98% accuracy on the test set.

**ACKNOWLEDGEMENT**

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**LIST OF ABBREVIATIONS**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | CNN | Convolution Neural Networks | | ANN | Artificial Neural Networks | | ReLU | Rectified Linear Unit | | RNN | Recurrent Neural Network | | LSTMs | Long Short-Term Memory’s | | RL | Reinforcement Learning | |  |  | |